

WHAT IS CLAIMED IS:

1. A polishing system comprising:
 - (a) a liquid carrier,
 - (b) a polymer having a degree of branching of about 50% or greater, and
 - (c) a polishing pad, an abrasive, or a combination thereof.
2. The polishing system of claim 1, wherein the degree of branching is about 60% or greater.
3. The polishing system of claim 2, wherein the degree of branching is about 70% or greater.
4. The polishing system of claim 1, wherein the polymer is selected from the group consisting of dendritic polymers, comb polymers, bottle-brush polymers, linear-dendrimer diblock copolymers, linear-dendrimer triblock copolymers, random-branched polymers, copolymers thereof, and combinations thereof.
5. The polishing system of claim 4, wherein the polymer is a linear-dendrimer diblock copolymer.
6. The polishing system of claim 5, wherein the linear-dendrimer diblock copolymer is a polyethylene oxide-polyamidoamine (PEO-PAMAM) diblock copolymer.
7. The polishing system of claim 4, wherein the polymer is a linear-dendrimer triblock copolymer.
8. The polishing system of claim 7, wherein the linear-dendrimer triblock copolymer is a polyethylene oxide-polypropylene oxide-polyamidoamine triblock copolymer.
9. The polishing system of claim 4, wherein the polymer is a dendritic polymer.
10. The polishing system of claim 9, wherein the dendritic polymer comprises a core monomer selected from the group consisting of a C₁₋₈ heterocyclic ring, a C₁₋₈ carbocyclic ring, a C₁₋₈ alkane, and a C₁₋₈ aminoalkane.

11. The polishing system of claim 9, wherein the dendritic polymer branches from a nitrogen atom.

12. The polishing system of claim 9, wherein the dendritic polymer comprises about 2 to about 10 generations.

13. The polishing system of claim 1, wherein the polymer is a polyamidoamine (PAMAM) polymer.

14. The polishing system of claim 1, wherein the polymer is a polyglycerol.

15. The polishing system of claim 1, wherein the polymer comprises surface functional groups selected from the group consisting of amines, amides, carboxylic acids, sulfonic acids, phosphonic acids, hydroxyl groups, salts thereof, and combinations thereof.

16. The polishing system of claim 1, wherein the polymer has a molecular weight of about 1,000 to about 1,000,000 g/mol.

17. The polishing system of claim 16, wherein the molecular weight is about 2,000 to about 500,000 g/mol.

18. The polishing system of claim 1, wherein the polymer comprises a highly branched core comprising monomers, wherein about 50% or more of the monomers within the highly branched core are branched.

19. The polishing system of claim 1, wherein the polymer has a viscosity that is about 70% or less the viscosity of a linear polymer of the same monomer composition and molecular weight under the same conditions.

20. The polishing system of claim 1, wherein the system comprises an abrasive suspended in the liquid carrier.

21. The polishing system of claim 1, wherein the system comprises an abrasive fixed to a polishing pad.

22. The polishing system of claim 1, further comprising one or more polishing additives selected from the group consisting of chelating or complexing agents, oxidizing agents, surfactants, anti-foaming agents, biocides, and combinations thereof.

23. A method of polishing a substrate comprising:

- (i) contacting a substrate with the polishing system of claim 1, and
- (ii) abrading at least a portion of the substrate to polish the substrate.